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				<b>5b. GRANT NUMBER</b> N00014-03-1-0711	
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<b>6. AUTHOR(S)</b>  Donald B. Peters				<b>5e. TASK NUMBER</b>  	
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<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b> Woods Hole Oceanographic Institution Applied Ocean Physics and Engineering Department 86 Water Street, MS #19 Woods Hole, Massachusetts				<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>  	
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<b>13. SUPPLEMENTARY NOTES</b>  					
<b>14. ABSTRACT</b>  An air-filled aluminum tube array was designed and constructed to function as an acoustic target for the Geoclutter field experiment. This horizontal array consisted of four 6-inch schedule 10 aluminum pipes 20 feet (6m) long attached to a depressor weight constructed of steel bar. The array was designed to be directionally oriented from the deployment vessel by dragging from the attached deployment/recovery mooring pennant.					
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## **Final Technical Report**

**Geoclutter Target Moorings**

Grant/Contract No.: N00014-03-1-0711

Period of Award: 15 April 2003 – 30 September 2003

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The Geoclutter target was designed to meet the following specification:

- Length 6m
- 4 Air-filled aluminum 6-inch schedule
- 10 pipes in a square bundle
- Sufficient weight to result in approximately 500 lb wet weight
- Ability to orient directionally by dragging
- Attachment point for deployment/recovery mooring penant
- Tagline bales at ends for handling

Attached are an overall dimensioned drawing and two photos of dock testing the target. The target was used successfully in the Geoclutter field experiment for Nick Makris of MIT.

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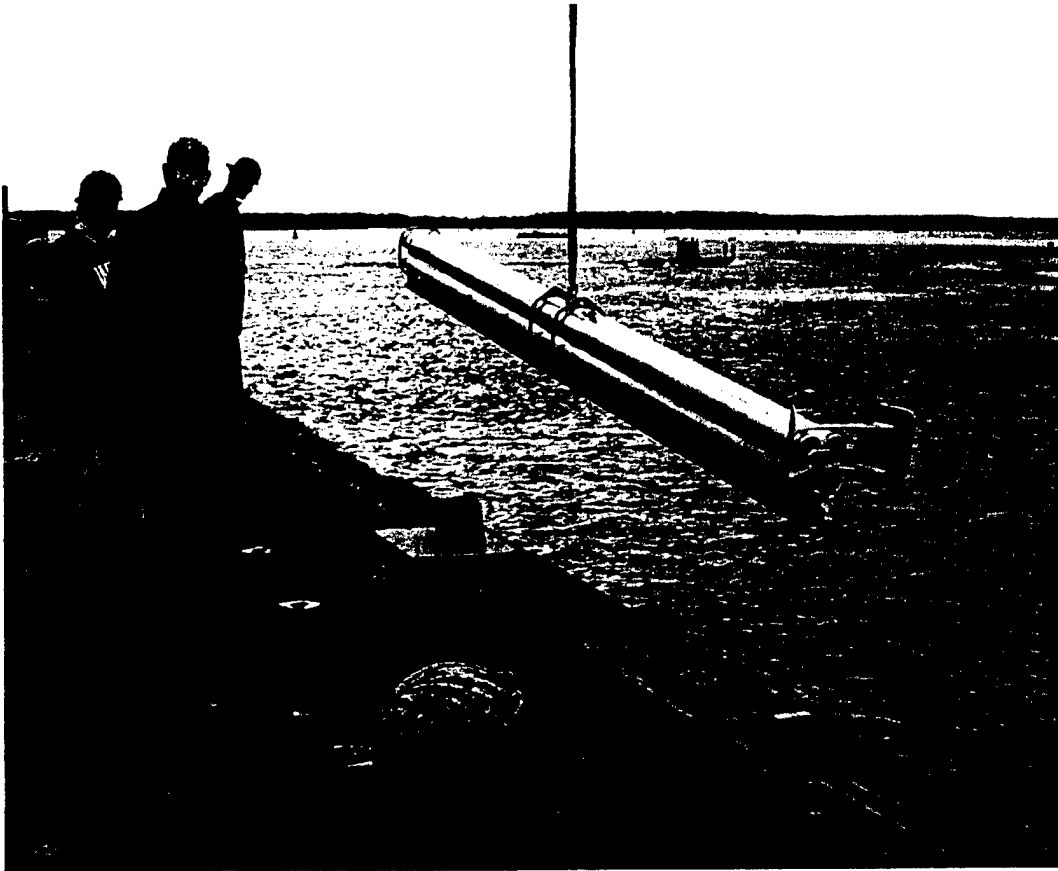
**Final Technical Report**

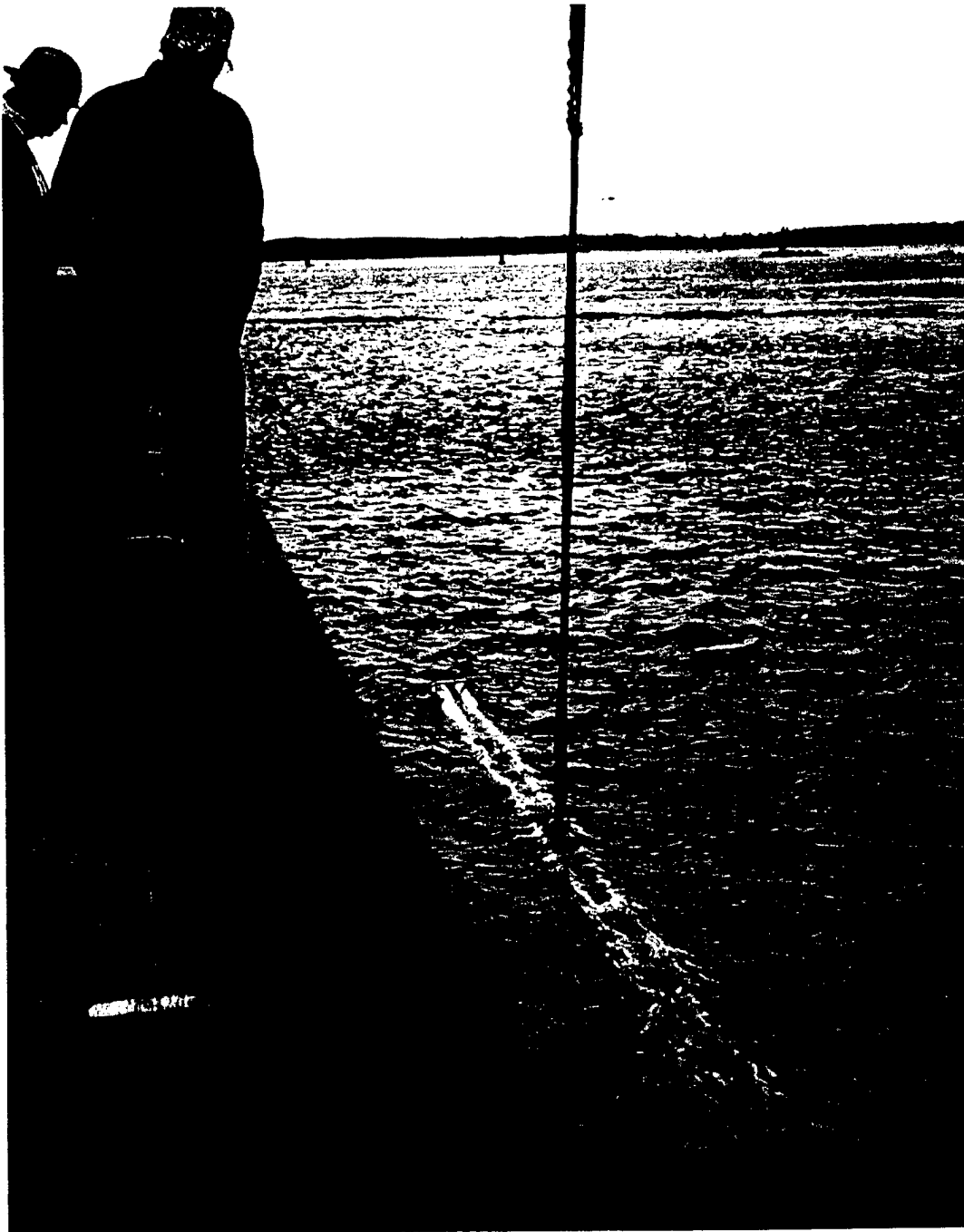
Geoclutter Target Moorings

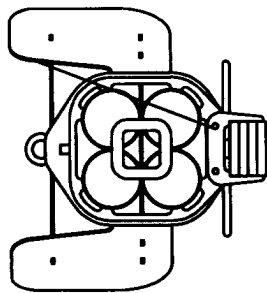
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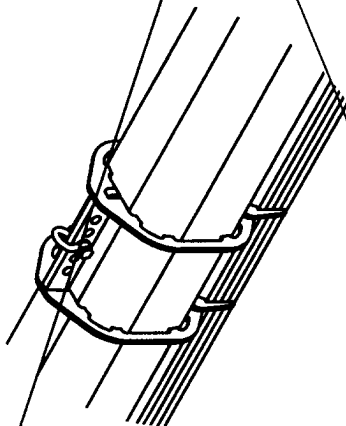
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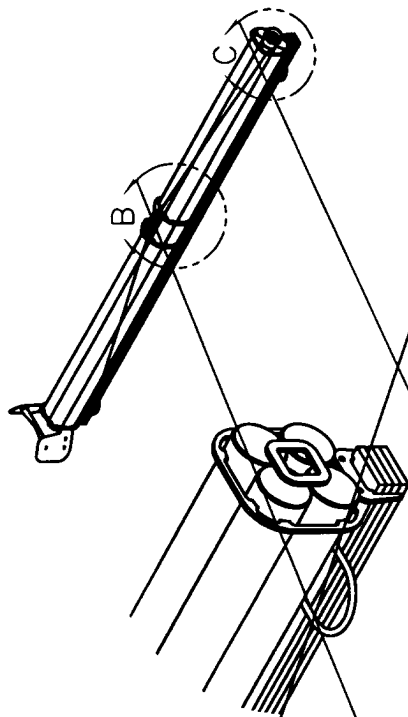




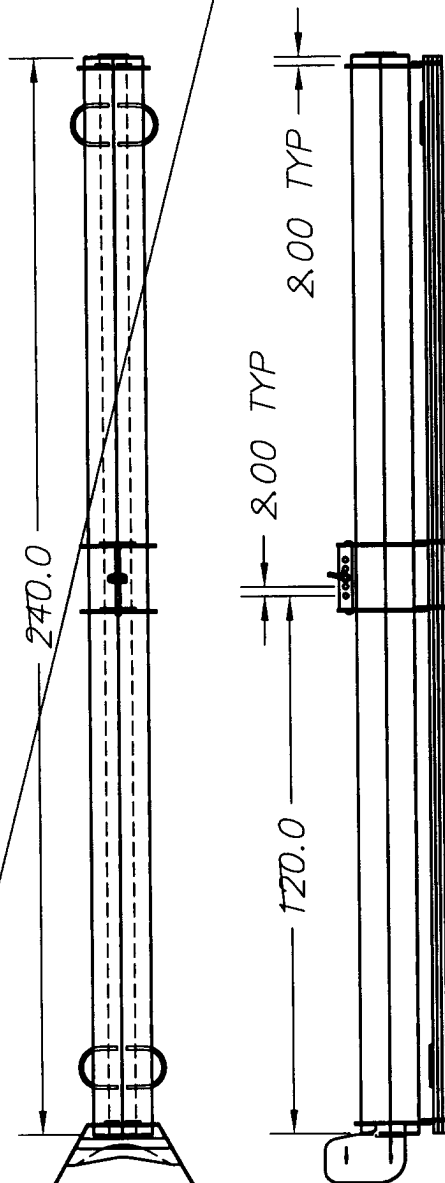
DETAIL A  
SCALE 1:20



DETAIL B  
SCALE 1:20



DETAIL C  
SCALE 1:20



2.00 TYP

120.0

2.00 TYP

A

**PICK ANGLE VS HRT OFFSET**

WEIGHT = 1926  
BUOYANCY = 1453  
WET WEIGHT = 473

HW = 18.62  
HB = 10.89

Pick Offset	Pick Angle	Subm Angle
2.00	6	3
4.00	12	5
6.00	18	8
8.00	23	11

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES  
DECIMALS ARE TO BE ROUNDED  
UP TO THE NEXT HIGHER  
DO NOT SCALE DRAWING

MATERIAL  
AS NOTED  
FINISH  
AS NOTED

PROJECT NO.  
DATE  
DRAWN BY  
CHECK

WOODS-HOLE OCEANOGRAPHIC INSTITUTION  
APPLIED TO OCEAN PHYSICS & ENGINEERING  
WOODS-HOLE, MASSACHUSETTS 02543

**GEOCLUTTER TARGET  
ASSEMBLY**

TITLE  
DATE  
SCALE  
SHEET OF

1955-0-0000